

5'	9	18	27	36	45	54											
NCA	ATG	GGC	CCG	TGG	GAA	GGG	TGA	ATG	TGG	GTC	CAG	ACC	CGC	CCC	TCC	TCA	
	63	72	81	90	99	108											
GCT	TCC	TAT	AAA	AGC	TGG	GGA	CCA	GGT	ACT	GCT	GAT	ACA	CAC	ACC	ATG	AGG	CTC
	117	126	135	144	153	162											
TCC	AGG	AGA	CCA	GAG	ACC	TTT	CTG	CTG	GCC	TTT	GTG	TTG	CTC	TGC	ACC	CTC	CTG
S	R	P	E	T	F	L	L	A	F	V	L	L	C	T	L	L	L
	171	180	189	198	207	216											
GGT	CTT	GGG	TGC	CCA	CTA	CAC	TGC	GAA	ATA	TGT	ACG	GCG	GCG	GGG	AGC	AGG	TGC
G	L	G	C	P	L	H	C	E	I	C	T	A	A	G	S	R	C
	225	234	243	252	261	270											
CAT	GGC	CAA	ATG	AAG	ACC	TGC	AGC	AGT	GAC	AAG	GAC	ACA	TGT	GTG	CTC	CTG	GTC
H	G	Q	M	K	T	C	S	S	D	K	D	T	C	V	L	L	V
	279	288	297	306	315	324											
GGG	AAG	GCT	ACT	TCA	AAG	GGC	AAG	GAG	TTG	GTG	CAC	ACC	TAC	AAG	GGC	TGC	ATC
G	K	A	T	S	K	G	K	E	L	V	H	T	Y	K	G	C	I
	333	342	351	360	369	378											
AGG	TCC	CAG	GAC	TGC	TAC	TCC	GGC	GTT	ATA	TCC	ACC	ACC	ATG	GGC	CCC	AAG	GAC
R	S	Q	D	C	Y	S	G	V	I	S	T	T	M	G	P	K	D

—

387	CAC ATG GTA ACC AGC TCC TTC TGC TGC CAG AGC GAC GGC TGC AAC AGT GCC TTT	405	414	423	432
	H M V T S S F C C Q S D G C N S A F				
441	TTG TCT GTT CCC TTG ACC AAT CTT ACT GAG AAT GGC CTG ATG TGC CCC GCC TGC	459	468	477	486
	L S V P L T N L T E N G L M C P A C				
495	ACT GCG AGC TTC AGG GAC AAA TGC ATG GGG CCC ATG ACC CAC TGT ACT GGA AAG	513	522	531	540
	T A S F R D K C M G P M T H C T G K				
549	GAA AAC CAC TGC GTC TCC TTA TCT GGA CAC GTG CAG GCT GGT ATT TTC AAA CCC	567	576	585	594
	E N H C V S L S G H V Q A G I F K P				
603	AGA TTT GCT ATG CGG GGC TGT GCT ACA GAG AGT ATG TGC TTT ACC AAG CCT GGT	621	630	639	648
	R F A M R G C A T E S M C F T K P G				
657	GCT GAA GTA CCC ACA GGC ACC AAT GTC CTC TTT CTC CAT ATA GAG TGC ACT	675	684	693	702
	A E V P T G T N V L F L H H I E C T				
711	CAC TCC CCC TGA AAA GCT ATC TGA ACA GAG GAA GAT AAT GTA GTG TGA AGT CCC	729	738	747	756
	H S P				

FIGURE 1B

AAA AAA AAA AAA AAA	819	828	837
AAA AAA AAA AAA AAC			TCG AG 3'

FIGURE 1C

1	N	C	A	A	T	G	G	G	C	C	G	G	C	G	T	G	G	G	A	A	G	G	G	T	G	A	A	T	G	consensus
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8941	
1	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10033	
1	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10774	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155045	
1	N	C	A	A	T	G	G	G	C	C	G	C	C	G	T	G	G	G	A	A	G	G	T	G	A	A	T	G	156817	
1	A	G	A	A	G	A	G	A	C	C	A	T	N	C	C	A	G	G	A	-	-	-	-	-	-	-	-	-	619856	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480	
1	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1291208	

31	T	G	G	G	T	C	C	A	G	A	C	C	C	G	C	C	C	T	C	C	T	C	A	G	C	T	T	C	C	consensus
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8941	
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10033	
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10774	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452	
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155045	
31	T	G	G	G	T	C	C	A	G	A	C	C	C	G	C	C	C	C	C	C	C	T	C	A	G	T	T	-	-	156817
26	T	G	G	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	619856
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480	
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1291208	

Figure 2A

61	T	A	T	A	A	A	G	C	T	G	G	G	A	C	C	A	G	G	T	A	C	T	G	C	T	G	A	T	consensus
1	-	-	-	-	-	-	-	-	-	-	-	-	G	G	A	-	-	-	G	G	-	-	-	-	-	-	-	-	8941
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10033
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10774
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155045
61	T	A	T	A	A	A	G	C	T	G	G	G	A	C	C	A	G	G	T	A	C	T	G	C	T	G	A	T	156817
30	-	-	-	-	-	-	G	T	G	G	G	A	-	-	-	G	G	-	-	-	-	-	-	-	-	-	-	-	619856
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480
16	T	G	C	A	G	C	C	A	C	T	G	G	A	A	T	C	A	A	G	-	-	-	-	-	-	-	-	-	1291208
91	A	C	A	C	A	C	C	A	T	G	A	G	G	C	T	C	T	C	A	G	G	A	G	A	C	C	A	consensus	
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8941
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10033
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10774
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155045
91	A	C	A	C	A	C	C	A	T	G	A	G	G	C	T	C	T	C	C	A	G	G	A	G	A	C	C	A	156817
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	619856
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1291208

Figure 2B

121	G	A	G	A	C	C	T	T	C	T	G	C	T	G	G	C	C	T	T	G	T	G	T	G	T	G	C	T	C	consensus
19	A	A	G	A	C	C	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8941	
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T	G	C	T	C	10033			
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644		
1	-	-	-	-	-	-	-	-	-	-	-	C	T	G	G	C	C	T	T	G	T	G	T	G	T	C	C	10774		
1	-	-	-	-	-	-	-	-	-	-	-	C	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854		
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861		
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452		
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T	N	C	N	C	155045
121	G	A	G	A	C	C	T	T	C	T	G	C	T	G	G	C	C	T	T	G	T	G	T	G	T	G	C	T	C	156817
53	A	A	G	A	C	C	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	619856	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480	
42	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	T	C	1291208	

151	T	G	C	A	C	C	C	T	C	C	T	G	G	G	T	C	T	T	G	G	G	T	G	C	C	C	A	C	T	A	consensus
27	-	-	-	-	-	-	-	-	-	-	-	G	A	G	G	C	A	G	G	G	T	-	-	-	-	-	-	-	-	8941	
8	T	N	C	A	C	C	C	T	C	C	T	G	G	G	T	C	T	T	G	G	G	T	G	C	C	C	A	C	T	A	10033
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644		
19	T	G	C	A	C	C	C	T	C	C	T	G	G	G	T	C	T	T	G	G	G	T	G	C	C	C	A	C	T	A	10774
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854		
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861		
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452		
20	T	-	C	A	C	C	C	T	C	C	N	G	G	G	T	C	T	N	G	G	G	T	G	C	C	C	A	C	N	A	155045
151	T	G	C	A	C	C	C	T	C	C	T	G	G	G	T	C	T	T	G	G	G	T	G	C	C	C	A	C	T	A	156817
61	-	-	-	-	-	-	-	-	-	-	-	G	A	G	G	C	A	G	G	G	T	-	-	-	-	-	-	-	-	619856	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480	
47	C	G	-	-	-	-	-	-	T	C	T	T	G	-	G	T	C	T	T	N	N	N	N	N	N	N	N	N	N	N	1291208

Figure 2C

181	C	A	C	T	G	C	G	A	A	T	A	T	G	T	A	C	G	G	C	G	G	C	G	G	G	A	G	C	consensus			
38	-	-	-	-	-	T	G	A	A	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	A	G	G	A	G	-	8941
38	C	A	C	T	G	C	G	A	A	T	A	T	G	T	A	C	G	G	C	G	C	G	G	G	A	G	C	10033				
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644
49	C	A	C	T	G	C	G	A	A	T	A	T	G	T	A	C	G	G	C	G	C	G	G	G	A	G	C	10774				
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452
49	C	A	C	T	G	C	G	A	A	N	T	A	T	G	T	A	C	G	G	C	G	C	G	G	T	A	G	C	155045			
181	C	A	C	T	G	C	G	A	A	T	A	T	G	T	A	C	G	G	C	G	C	G	G	G	A	G	C	156817				
72	-	-	-	-	-	T	G	A	A	G	C	-	-	-	-	-	-	-	-	-	-	-	-	-	C	A	G	G	A	G	-	619856
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480
71	N	N	N	N	N	N	C	A	A	T	G	G	G	C	-	C	G	G	C	C	G	T	G	G	A	A	G	-	1291208			
211	A	G	G	T	G	C	C	A	T	G	G	C	C	A	A	T	G	A	A	G	A	C	C	T	G	C	A	G	C	consensus		
51	-	-	-	-	-	-	-	T	G	G	T	C	A	G	C	-	-	-	-	-	-	-	-	-	-	C	A	G	C	8941		
68	A	G	G	T	G	C	C	A	T	G	G	C	C	A	A	T	G	A	A	G	A	C	C	T	G	C	A	G	C	10033		
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10644
79	A	G	G	T	G	C	C	A	T	G	G	C	C	A	A	T	G	A	A	G	A	C	C	T	G	C	A	G	C	10774		
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72861
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452
79	A	G	G	T	T	C	C	A	T	G	N	C	C	A	A	T	N	A	A	G	A	N	C	T	T	C	A	N	C	155045		
211	A	G	G	T	G	C	C	A	T	G	G	C	C	A	A	T	G	A	A	G	A	C	C	T	G	C	A	G	C	156817		
85	-	-	-	-	-	-	-	-	-	T	G	G	T	C	A	G	C	-	-	-	-	-	-	-	-	-	C	A	G	C	619856	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480
99	-	G	G	T	G	-	-	-	-	-	-	-	-	-	-	A	A	T	G	T	G	G	T	C	-	-	C	A	G	-	1291208	

Figure 2D

241	AGTGAC	AAGGAC	ACATGT	GTGTGC	TCCTGG	TC	consensus
63	ACTGTC	- - - -	- CCTG	CCCTGT	CCCCA	- TC	8941
98	AGTGAC	AAGGAC	ACATGT	GTGTGC	TCCTGG	TC	10033
2	- - - -	- - - -	- ACAC	ATGTNT	CCCTGG	TC	10644
109	AGTGAC	AAGGAC	ACATGT	GTGTGC	TCCTGG	TC	10774
3	- - - -	- - - -	- - - -	- - - -	- - - -	-	71854
1	- - - -	- - - -	- - - -	- - - -	- - - -	-	72861
1	- - - -	- - - -	- - - -	- - - -	- - - -	-	74452
109	NGTGAC	AAGGAC	ACATGT	NTGTGC	TCCTGG	TC	155045
241	AGTGAC	AAGGAC	ACATGT	GTGTGC	TCCTGG	TC	156817
97	ACTGTC	- - - -	- CCTG	CCCTGT	CCCCA	- TC	619856
1	- - - -	- - - -	- - - -	- - - -	- - - -	-	683480
116	- - - -	- - - -	- - - -	- ACCG	CCCTCC	TC	1291208
271	GGGAGG	CTACTT	CAAGGG	CCAGGA	AGTTG		consensus
85	- - - -	- CCA -	- CAGAG	GGCAAG	GAAGTTG		8941
128	GGGAGG	CTACTT	CAAGGG	CCAGGA	AGTTG		10033
22	GGGAGG	CTACTT	CAAGGG	CCAGGA	AGTTG		10644
139	GGGAGG	CTACTT	CAAGGG	CCAGGA	AGTTG		10774
3	- - - -	- - - -	- - - -	- - - -	- - - -	-	71854
1	- - - -	- - - -	- - - -	- - - -	- - - -	-	72861
1	- - - -	- - - -	- - - -	- - - -	- - - -	-	74452
139	GGNAGN	CTACTT	CAAGGG	CCAGGA	AGTTG		155045
271	GGGAGG	CTACTT	CAAGGG	CCAGGA	AGTTG		156817
119	- - - -	- CCA -	- CAGAG	GGCAAG	GAAGTTG		619856
1	- - - -	- - - -	- - - -	- - - -	- - - -	-	683480
130	AG - - - -	- - - -	- - - -	- - - -	- - - -	-	1291208

Figure 2E



301	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	consensus	
105	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	8941	
158	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	10033	
52	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	N	C	10644	
169	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	10774	
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854		
5	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	72861	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452		
169	G	T	G	C	A	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155045	
301	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	156817	
139	G	T	G	C	A	C	A	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	619856		
5	G	T	G	C	A	C	A	C	C	T	A	C	A	A	G	G	C	T	G	C	A	T	C	A	G	G	T	C	C	683480	
136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1291208		
331	C	A	G	G	A	C	T	G	C	T	A	C	T	C	C	G	G	C	G	T	T	A	T	A	T	C	C	A	C	C	consensus
135	C	A	G	G	A	C	T	G	C	T	A	C	T	C	C	G	G	C	G	T	T	A	T	A	T	C	N	A	C	C	8941
188	C	A	G	G	A	C	T	G	C	T	A	C	T	C	C	G	G	C	G	T	T	A	T	A	T	C	C	A	C	C	10033
82	C	A	G	G	A	C	T	G	C	T	A	C	T	C	C	G	G	N	G	T	T	A	T	A	T	C	C	A	C	C	10644
199	C	A	G	G	A	C	T	G	C	T	A	C	T	C	C	G	G	C	G	T	T	A	T	A	T	C	C	A	C	C	10774
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71854		
35	C	A	G	G	A	C	T	T	C	T	A	C	T	C	C	G	G	N	G	T	T	A	T	A	T	C	C	A	C	C	72861
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74452		
174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155045		
331	C	A	G	G	A	C	T	G	C	T	A	C	T	C	C	G	G	C	G	T	T	A	T	A	T	C	C	A	C	C	156817
169	C	A	G	G	A	C	T	G	C	T	A	C	T	N	C	G	G	N	G	T	T	A	T	A	T	C	C	A	C	C	619856
35	C	A	G	G	A	C	T	G	C	T	A	C	T	C	C	G	G	C	G	T	T	A	T	A	T	N	C	A	C	C	683480
148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1291208	

Figure 2F

361	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	consensus			
165	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	8941			
218	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	10033			
112	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	10644			
229	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	10774			
20	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	71854			
65	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	72861			
20	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	74452			
174																														
361	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	155045			
199	A	C	C	A	T	G	G	G	C	C	C	A	A	G	G	A	C	C	A	T	G	G	T				156817			
65	A	C	C	A	T	G	G	G	N	C	C	A	A	G	G	A	C	C	A	T	G	G	T	A	A	C	619856			
148	-	-	-	-	-	-	-	-	-	-	-	-	-	G	G	A	C	C	A	-	-	G	G	T	A	-	683480			
																										1291208				
391	A	G	C	T	C	C	T	T	C	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	consensus	
195	A	G	C	T	C	C	T	T	C	T	G	N	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	8941	
248	A	G	C	T	C	C	T	T	C	T	G	C	T	G	C	-	A	G	A	G	C	G	A	C	G	C	T	G	10033	
142	A	G	C	T	C	C	T	T	C	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	10644	
259	A	G	C	T	C	C	T	T	C	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	10774	
50	A	G	C	T	C	C	T	T	C	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	71854	
95	A	G	C	T	C	C	T	T	N	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	72861	
50	A	G	C	T	C	C	T	T	C	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	74452	
174																														
391	A	G	C	T	C	C	T	T	C	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	C	T	G	155045	
224																											156817			
95	A	G	C	T	C	C	T	T	N	T	G	C	T	G	C	C	A	G	A	G	C	G	A	C	G	N	C	T	G	619856
159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	683480		
																											1291208			

Figure 2G

421	A	A	C	A	G	T	G	C	C	T	T	T	T	G	T	C	T	G	T	T	C	C	C	T	T	G	A	C	C	consensus	8941
225	A	A	C	A	G	T	G	C	C	T	T	T	T	G	T	C	T	G	T	T	C	C	C	T	T	G	A	C	C		10033
277	A	A	C	A	G	T	G	C	C	T	T	T	T	G	T	C	T	G	T	T	C	C	C	T	T	G	A	C	C		10644
172	A	A	C	A	G	T	G	C	C	T	T	T	T	G	T	C	T	G	T	T	C	C	C	T	T	G	A	C	C		10774
289	A	A	C	A	G	T	G	C	C	T	T	T	T	G	T	C	T	G	T	T	C	C	C	T	T	G	A	C	C		71854
80	A	A	C	A	N	T	G	C	C	T	T	T	T	N	T	N	T	G	T	T	C	C	C	T	T	G	A	C	C		72861
125	A	A	C	A	T	G	C	C	T	T	T	T	T	N	T	N	T	G	T	T	C	C	C	T	T	G	A	C	C		74452
80	A	A	C	A	N	T	G	C	C	T	T	T	T	N	T	N	T	G	T	T	C	C	C	T	T	G	A	C	C		155045
174																														156817	
421	A	A	C	A	G	T	G	C	C	T	T	T	T	G	T	C	T	G	T	T	C	C	C	T	T	G	A	C	C		619856
224																														683480	
125	A	A	C	A	G	T	G	C	C	T	T	T	T	G	T	C	T	G	T	T	C	C	C	T	T	G	A	C	C		1291208
163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
451	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C	consensus	8941
255	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C		10033
307	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C		10644
202	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	N	G	N	C	T	G	A	T	G	T	G	C	C	C		10774
319	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C		71854
110	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C		72861
151																														74452	
110	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C		155045
174																														156817	
451	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C		619856
224																														683480	
155	A	A	T	C	T	T	A	C	T	G	A	G	A	A	T	G	G	C	C	T	G	A	T	G	T	G	C	C	C		1291208
163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Figure 2H

481	G C C T G C A C T G C G A G C T T C A G G G A C A A T G C	consensus
285	G C - T G C A C T G C G A G T T T N A G G G N C A A - -	8941
324		10033
232	G N C T G C A C T G N G A G C T T C A G G G A C A A T G C	10644
349	G C C T G C A C T G C G A G C T T C A G G G A C A A T G C	10774
140	G C C T G C A C T G C G A G C T T C A G G G A C A A T G C	71854
151		72861
140	G C C T G C A C T G C G A G C T T C A G G G A C A A T G C	74452
174		155045
481	G C C T G C A C T G C G A G C T T C A G G G A C A A T G C	156817
224		619856
185	G N C T G C A C T G C G A G C T T N A G G G A C A A T G C	683480
171	- - - A C A C - - - - - - - - - - - - - - - C	1291208
511	A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G	consensus
311	- - - - A T N C A T G - - - - - - - - - - - - - -	8941
324		10033
262	- -	10644
379	A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G	10774
170	A T G G G G C C C A T G A C C C	71854
151		72861
170	A T G G G G C C C A T G A C C C - - - - - C A G G A - -	74452
174		155045
511	A T G G G G C C C A T G A C C C C A C T G T A C T G G A A A G	156817
224		619856
215	A T G G G G C C C A T G A C C C A C T G T A C T G G A G A G	683480
176	A T G A G G C T C - - - - T C C A - - - - - - - - - -	1291208

Figure 2I

541	G A A A C C A C T G C G T C T C C T T A T C T G G A C A C	consensus
318	- - - - -	8941
324	- - - - -	10033
262	- - - - -	10644
409	G A A A C C A C T G C G T C T C C T T A T G T G G A C A C	10774
185	- - - - -	71854
151	- - - - -	72861
191	- - - - - C T G C - - - - -	74452
174	- - - - -	155045
541	G A A A C C A C T G C G T C T C C T T A T C T G G A C A C	156817
224	- - - - -	619856
245	G A A A C C A	683480
189	G G A G A C C A - - - - -	1291208
	- - - - - G A G A C	
571	G T G C A G G C T G G T A T T T C A A C C C A G A T T	consensus
318	- - - - -	8941
324	- - - - -	10033
262	- - - - -	10644
439	G T G C A T G C T G G T A T T T C A A C C C A G A T T	10774
185	- - - - -	71854
151	- - - - -	72861
195	- - - - - T A C T C - - - - -	74452
174	- - - - -	155045
571	G T G C A G G C T G G T A T T T C A A C C C A G A T T	156817
224	- - - - -	619856
252	- - - - -	683480
202	- - - - - C T T T C - - - - -	1291208
	- - - - - T	

Figure 2J

601	G C T A T G C G G G C C T G T G C T A C A G A G T A T G	consensus
318	- - - - - G G G G - - - - - - - - - - - - - - -	8941
324		10033
262	- -	10644
469	G C T A T G C G G G C C T G T G C T A C A G A G T A T G	10774
185		71854
151		72861
200	- - - - - C G G N G T T A T A - - - - - - - - - - -	74452
174		155045
601	G C T A T G C G G G C C T G T G C T A C A G A G T A T G	156817
224		619856
252		683480
208	G C T - - - - - G G C - - - - - - - - - - - - - - -	1291208
631	T G C C T T T A C C A A G C C C T G G T G C T G A A G T A C C C	consensus
322	- -	8941
324		10033
262		10644
499	T G C C T T T A C C A A G C C C T G G T G C T G A A G T A C C C	10774
185		71854
151		72861
210	- - - - - T C C A C C A - - - - - - - - - - - - - - - C C	74452
174		155045
631	T G C C T T T A C C A A G C C C T G G T G C T G A A G T A C C C	156817
224		619856
252		683480
214	- - - C T T T - - - - - - - - - - - G T G T T G - - - - - - -	1291208

Figure 2K

661	A	C	A	G	G	C	A	C	C	A	A	T	G	T	C	C	T	C	T	C	T	C	T	C	C	A	T	C	A	T	consensus		
322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8941			
324																														10033			
262																														10644			
529	A	C	A	G	G	C	A	C	C	A	A	T	G	T	C	C	T	C	T	C	T	C	T	C	C	A	T	C	A	T	10774		
185																														71854			
151																														72861			
219	A	T	G	G	G	C	C	C	C	A	A	G	G	-	-	-	-	-	-	-	-	-	-	-	-	A	C	C	A	C	74452		
174																														155045			
661	A	C	A	G	G	C	A	C	C	A	A	T	G	T	C	C	T	C	T	C	T	C	C	T	C	C	A	T	C	A	T	156817	
224																														619856			
252																														683480			
224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1291208		
691	A	T	A	G	A	G	T	G	C	A	C	T	C	A	C	T	C	C	C	C	T	G	A	A	A	A	G	C	T	consensus			
322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8941		
324																														10033			
262																														10644			
559	A	T	A	G	A	G	T	G	C	A	C	T	C	A	C	T	C	C	C	C	T	G	A	A	A	A	G	C	T	10774			
185																														71854			
151																														72861			
237	A	T	G	-	-	G	T	A	-	A	C	C	A	G	C	T	C	C	T	T	C	T	G	-	-	-	-	-	-	-	-	C	T
174																														74452			
691	A	T	A	G	A	G	T	G	C	A	C	T	C	A	C	T	C	C	C	C	T	G	A	A	A	A	A	G	C	T	155045		
224																														156817			
252																														619856			
227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683480		
																															1291208		

Figure 2L

721	A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A	consensus
322	- - - - -	8941
324		10033
262		10644
589	A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A	10774
185		71854
151		72861
259	G C C A G A G C N A C G G C - - - - - T G C A A C - - - -	74452
174		155045
721	A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A	156817
224		619856
252		683480
241	- - - - -	1291208
751	A G T C C C C A T T T G T C C T C A G C C T G T A A C T T C	consensus
322	- - - - C C C A T T	8941
324		10033
262		10644
619	A G T C C C C A T T T G T T C C T A G N C T G T A A C T T C	10774
185		71854
151		72861
279	A N T G C C - - T T T N T - - - - G T C T G T N - - - - C	74452
174		155045
751	A G T C C C C A T T T G T C C T C A G C C T G T A A C T T C	156817
224		619856
252		683480
241	- - - - - T C T T G G - - - - -	1291208

Figure 2M



781	C C C G T G T G - C C T A T A A G A A G T T A A T A G A G	consensus
327		8941
324		10033
262		10644
649	C C - G T G T G G C C T A T A A N G A A G T T A A T N G N G	10774
185		71854
151		72861
298	C C T - - - T G A C C - - - - A A T C T N A C T G A G	74452
174		155045
781	C C C G T G T G - C C T A T A A G A A G T T A A T A G A G	156817
224		619856
252		683480
247	- - - G T G C	1291208
810	C A C T C G A G	consensus
327		8941
324		10033
262		10644
678	C A A N N A N A A G A A A A A A	10774
185		71854
151		72861
318	- - - - - - - - - - A A T N G C C T G A T T	74452
174		155045
810	C A C T C G A G	156817
224		619856
252		683480
250		1291208

Figure 2N

1 MRLSRRPETFLLAFLVLLCTLLGLGCP LHC E GIPL aa  
 1 MK - - - - - Y LHTICLLFI FVAR GNSRS C D CNF aa

31 ICTAAGSRCHGQMKTCS SDKDT CVLLVGKA GIPL aa  
 24 FCHNI GKD C D GYEEECSSPE D V C GKV LLE I CNF aa

61 TSKGKELVHTYKGCIRSQDCYSGVISTTMG GIPL aa  
 54 SASLSV RTH K N CFS SSI CKLG QFDVNI G CNF aa

91 PKDHMVTS SFC C QSDGCNS - A FLSVPLTNL GIPL aa  
 84 HHSYIRGRINCC EKELCEDQPF PGLPLSK - CNF aa

120 TENG LMC PACTASFRDKCMGPMTHCTGKEN GIPL aa  
 113 - P NGY Y C P G A I G L F T K D S T E Y E A I C K G T E T CNF aa

150 HCVSLSGHVQAGIFKP - - R F A M R G C A T E S M GIPL aa  
 142 K C I N I V G H - R Y E Q F P G D I S Y N L K G C V S S - - CNF aa

178 CFTKPGA EVPTGTNVLFLHHIECTHSP GIPL aa  
 169 CPLLSLSNATFEQNRNYLEKVECKDAIRLA CNF aa

204  
 199 S L  
 GIPL aa  
 CNF aa

Figure 3

T09090" 02554860

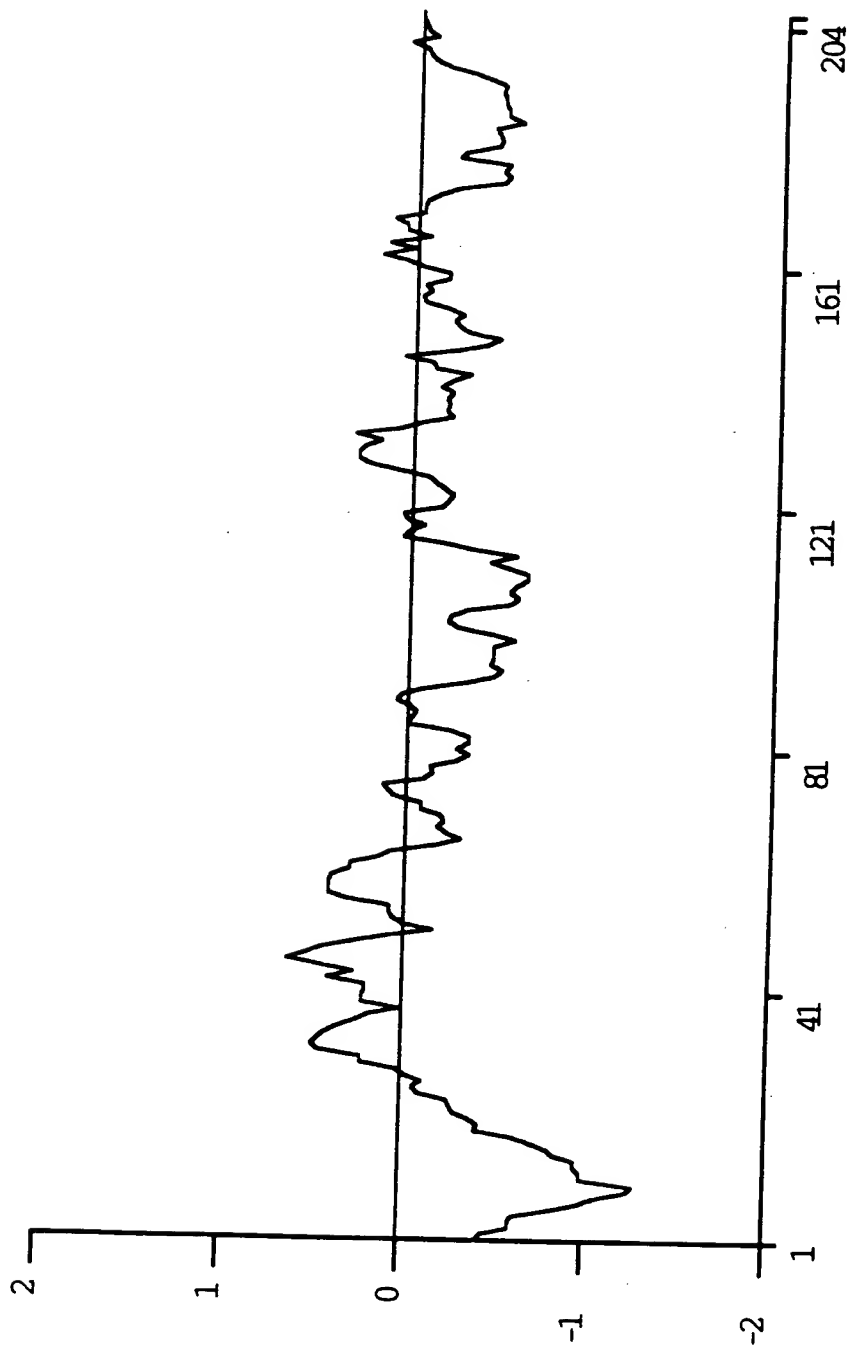


FIGURE 4

FO9090" 0255/860

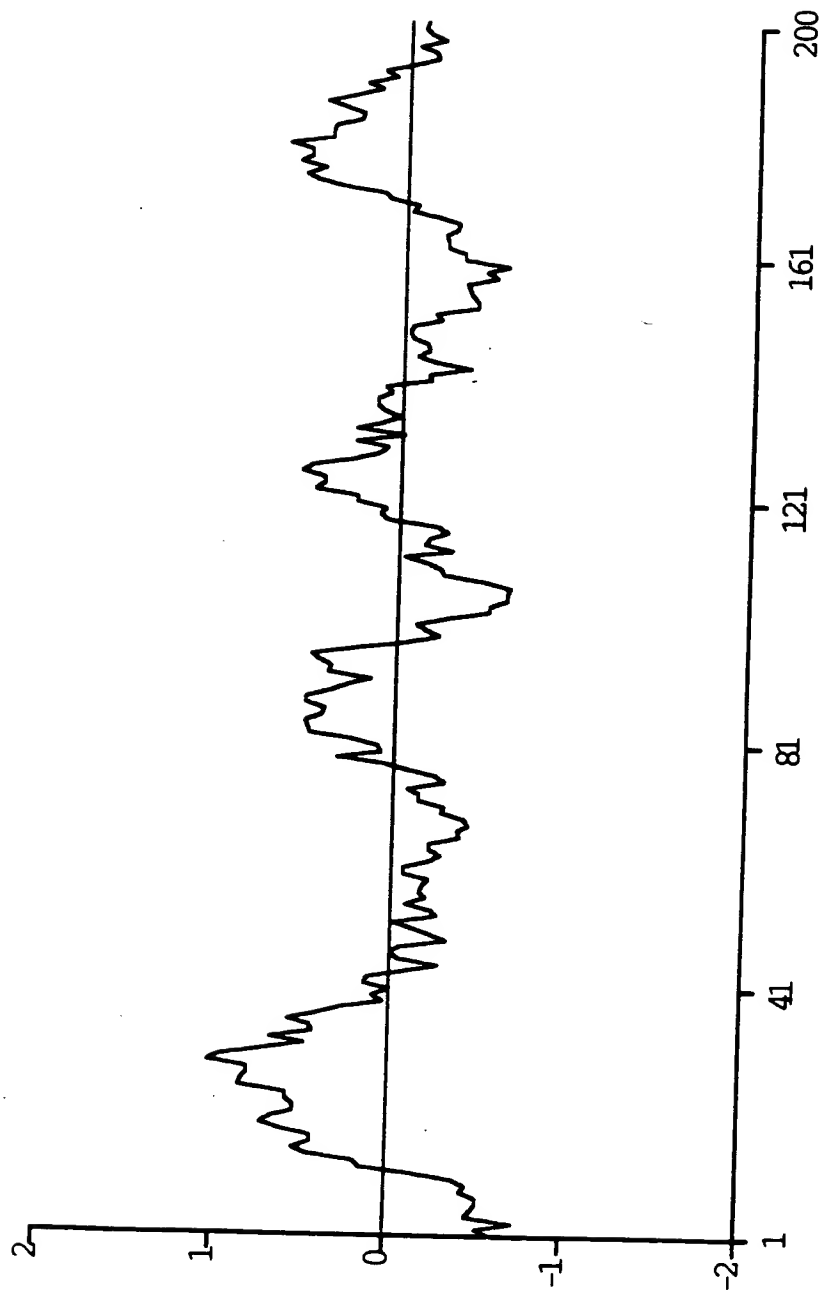


FIGURE 5

FO9090" 02552860

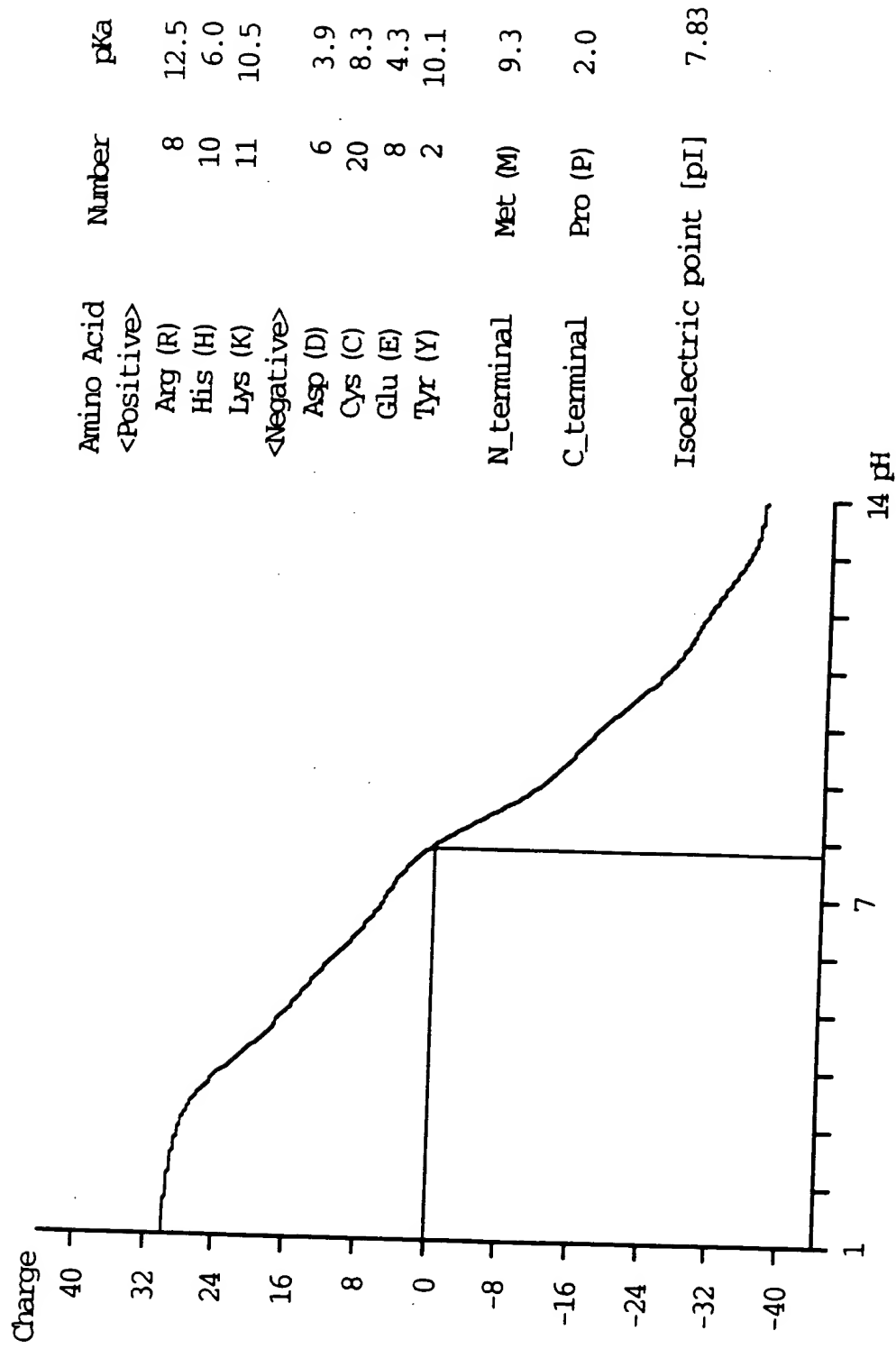


FIGURE 6

FO9090-02552860

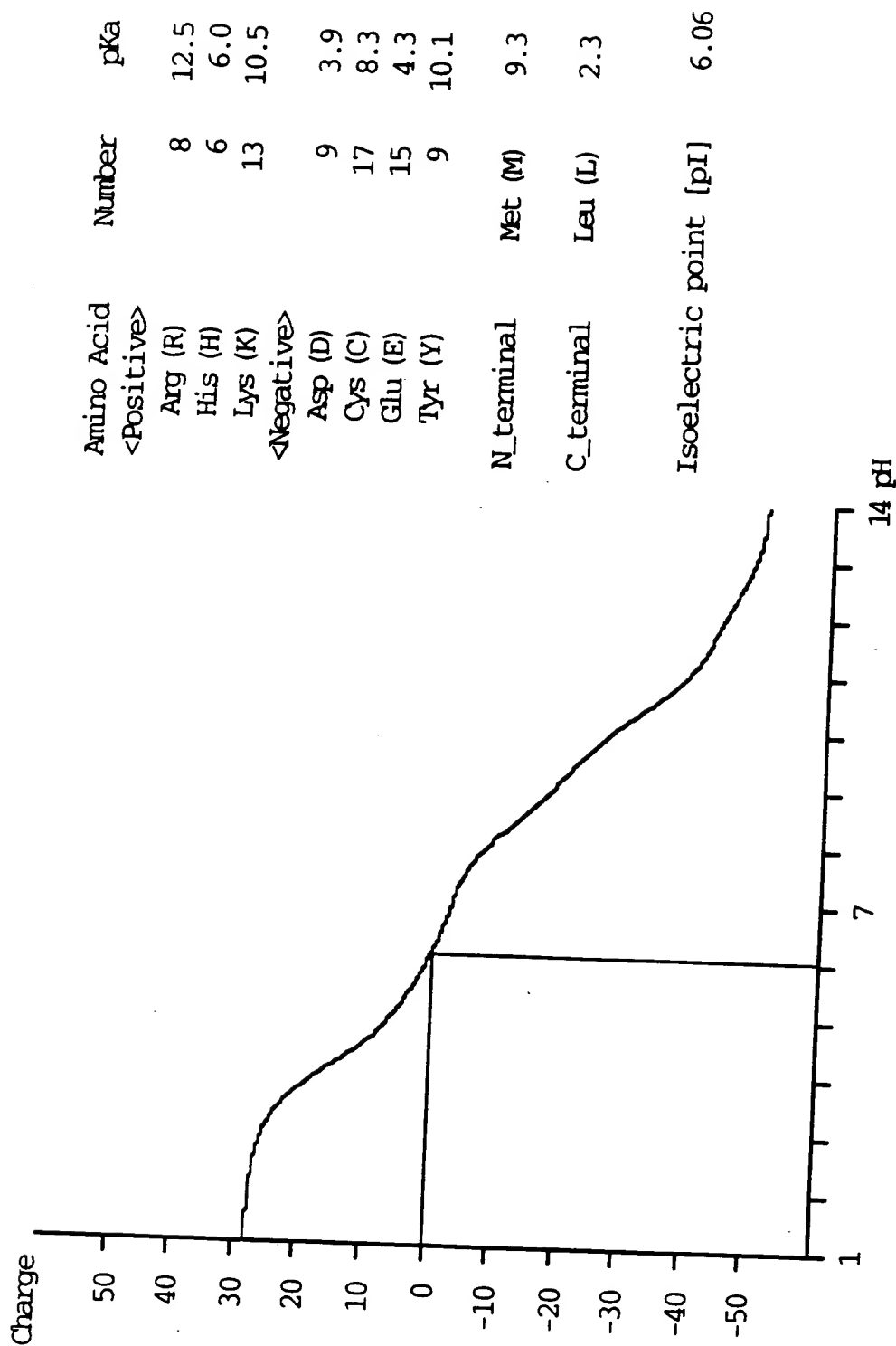


FIGURE 7

00071550-060601

5' NCA ATG GGC GGG CCG TGG GAA GGG TGA ATG TGG GTC CAG ACC CGC CCC TCC TCA  
 9 18 27 36 45 54  
 GGT TCC TAT AAA AGC TGG GGA CCA GGT ACT GGT GAT ACA CAC ACC ATG AGG CTC  
 53 72 81 90 99 108  
 M R L  
 TCC AGG AGA CCA GAG ACC TTT CTG CTG GCC TTT GTG TTG CTC TGC ACC CTC CTC  
 117 126 135 144 153 162  
 S R R P E T F L L A F V L L C T L L  
 GGT CTT GGG TGC CCA CTA CAC TGC GAA ATA TGT ACG GCG GCG GGG AGC AGG TGC  
 171 180 189 198 207 216  
 G L G C P L H C E I C T A A G S R C  
 CAT GGC CAA ATG AAG ACC TGC AGC AGT GAC AAG GAC ACA TGT GTG CTC CTC GTC  
 225 234 243 252 261 270  
 H G Q M K T C S S D K D T C V L L V  
 GGG AAG GGT ACT TCA AAG GGC AAG GAG TTG GTG CAC ACC TAC AAG GGC TGC ATC  
 279 288 297 306 315 324  
 G K A T S K G K E L V H T Y K G C I  
 AGG TCC CAG GAC TGC TAC TCC GGC GTT ATA TCC ACC ACC ATG GGC CCC AAG GAC  
 333 342 351 360 369 378  
 R S Q D C Y S G V I S T T M G P K D  
 CAC ATG GTA ACC AGC TCC TTC TGC TGC CAG AGC GAC GGC TGC AAC AGT GCC TTT  
 387 396 405 414 423 432  
 H M V T S S F C C Q S D G C N S A F  
 TTG TCT GTT CCC TTG ACC AAT CTT 459 GAG AAT GGC CTG ATG TGC CCC GCC TGC  
 441 450 459 468 477 486  
 L S V P L T N L T E N G L M C P A C  
 ACT GCG AGC TTC AGG GAC AAA TGC ATG GGG CCC ATG ACC CAC TGT ACT GGA AAG  
 495 504 513 522 531 540  
 T A S F R D K C M G P M T H C T G K

FIGURE 1A

GAA	AAC	549	CAC	TGC	GTC	558	TCA	TCT	GGA	CAC	567	GTG	CAG	GCT	GGT	576	ATT	TTC	AAA	594	CCC		
E	N	H	C	V	S	L	S	G	H	V	Q	A	G	I	F	K	P						
AGA	TTT	603	GCT	ATG	CGG	612	GGC	TGT	GCT	ACA	621	GAG	AGT	ATG	TGC	TTT	630	ACC	AAG	CCT	648	GGT	
R	F	A	M	R	G	C	A	T	E	S	M	C	F	T	K	P	G						
GCT	GAA	657	GTA	CCC	ACA	666	GGC	ACC	AAT	GTC	675	CTC	TTC	CTC	CAT	CAT	684	ATA	GAG	TGC	702	ACT	
A	E	V	P	T	G	T	N	V	L	F	L	H	H	I	E	C	T						
CAC	TCC	711	CCC	TGA	AAA	720	GCT	ATC	TGA	ACA	729	GAG	GAA	GAT	AAT	GTA	738	GTG	TGA	747	AGT	756	CCC
H	S	P																					
CAT	TTG	765	TCC	TCA	GCC	774	TGT	AAC	TTC	CCC	783	GTG	TGC	CTA	TAA	AGA	792	AGT	TAA	801	TAG	810	AGC
AAA	AAA	819	AAA	AAA	AAA	828	AAA	AAA	AAC	TCG	837	AG	3'										

FIGURE 1B



09875520.060601

1	N C A A T G G G C C G G C C G T G G G A A G G G T G A A T G	consensus
1	- - - - -	8941
1	G - - - -	10033
1	G - - - -	10644
1	- - - - -	10774
1	- - - - -	71354
1	- - - - -	72861
1	- - - - -	74452
1	- - - - - C N T G G - - - - -	155045
1	N C A A T G G G C C G G C C G T G G G A A G G G T G A A T G	156817
1	A G A A A G A G A C C A T N C C A G G A A - - G T - - - T G	619856
1	- - - - -	683480
1	G - - - - - G G A A - - - - -	1291208
31	T G G G T C C A G A C C C G C C C C T C C T C A G C T T C C	consensus
1	- - - - -	8941
2	- - - - -	10033
2	- - - - -	10644
1	- - - - -	10774
1	- - - - -	71854
1	- - - - -	72861
1	- - - - -	74452
5	- - - - - C C T T A G T T T - -	155045
31	T G G G T C C A G A C C C G C C C C T C C T C A G C T T C C	156817
25	T G G G - - - - -	619856
1	- - - - -	683480
5	- - - - - T C C C A G - T T C T	1291208
51	T A T A A A A G C T G G G G A C C A G G T A C T G C T G A T	consensus
1	- - - - - G G A - - - G G - - -	8941
2	- - - - -	10033
2	- - - - -	10644
1	- - - - -	10774
1	- - - - -	71854
1	- - - - -	72861
1	- - - - -	74452
15	- - - - -	155045
51	T A T A A A A G C T G G G G A C C A G G T A C T G C T G A T	156817
30	- - - - - G T T G G G G A - - - G G - - -	619856
1	- - - - -	683480
15	T G C A G C C A C T G G G A A T C A A G - - - - -	1291208

FIGURE 2A

09275520 060604

91	A C A C A C A C C A T G A G G C T C T C C A G G A G A C C A	consensus
6	- - - - - C C T A G G G T T - - - - - A G G C - -	8941
2	- -	10033
2	- -	10644
1	- -	10774
1	- -	71854
1	- -	72861
1	- -	74452
15	- -	155045
91	A C A C A C A C C A T G A G G C T C T C C A G G A G A C C A	156817
40	- - - - - C C T A G G G T T - - - - - A G G C - -	619856
1	- -	683480
36	- - - - - - - - - - - - - - - - - A G G C C C	1291208

FIGURE 2B

121	G A G A C C T T T C T G C T G G C C T T T G T G T T G C T C	consensus
19	A A G A C C T T -	8941
2	- -	10033
2	- -	10644
1	- -	10774
1	- -	71854
1	- -	72861
1	- -	74452
15	- -	155045
121	G A G A C C T T T C T G C T G G C C T T T G T G T T G C T C	156817
53	A A G A C C T T -	619856
1	- -	683480
42	A A -	1291208
151	T G C A C C C T C C T G G G T C T T G G G T G C C C A C T A	consensus
27	- -	8941
8	T N C A C C C T C C T G G G T C T T G G G T G C C C A C T A	10033
2	- -	10644
19	T G C A C C C T C C T G G G T C T T G G G T G C C C A C T A	10774
3	- -	71854
1	- -	72861
1	- -	74452
20	T - C A C C C T C C N G G G T C T N G G G T G C C C A C N A	155045
151	T G C A C C C T C C T G G G T C T T G G G T G C C C A C T A	156817
61	- -	619856
1	- -	683480
47	C G - - - - - T C T T G - G T C T T N N N N N N N N N N N N	1291208
181	C A C T G C G A A A T A T G T A C G G C G G C G G G G G A G C	consensus
38	- - - - - T G A A G C - - - - - - - - - - - C A G G G A G -	8941
38	C A C T G C G A A A T A T G T A C G G C G G C G G G G G A G C	10033
2	- -	10644
49	C A C T G C G A A A T A T G T A C G G C G G C G G G G G A G C	10774
3	- -	71854
1	- -	72861
1	- -	74452
49	C A C T G C G A A N T A T G T A C G G C G G C G G G T A G C	155045
181	C A C T G C G A A A T A T G T A C G G C G G C G G G G G A G C	156817
72	- - - - - T G A A G C - - - - - - - - - - - C A G G G A G -	619856
1	- -	683480
71	N N N N N N N C A A T G G G C - C G G C C G T G G G A A G -	1291208

**FIGURE 2C**

09875520-06060-1

211	A G G T G C C A T G G C C A A A T G A A G A C C T G C A G C	consensus
51	- - - - - T G G T C A G C - - - - - C A G C	8941
68	A G G T G C C A T G G C C A A A T G A A G A C C T G C A G C	10033
2	- -	10644
79	A G G T G C C A T G G C C A A A T G A A G A C C T G C A G C	10774
3	- -	71854
1	- -	72861
1	- -	74452
79	A G G T T C C A T G N C C A A A T N A A G A N C T T C A N C	155045
211	A G G T G C C A T G G C C A A A T G A A G A C C T G C A G C	156817
85	- - - - - T G G T C A G C - - - - - C A G C	619856
1	- -	683480
99	- G G T G - - - - - A A T G T G G G T C - - C A G -	1291208

FIGURE 2D

241	A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C	consensus
53	A C T G T C - - - - - C C T G C C T G T C C C C A - T C	8941
98	A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C	10033
2	- - - - - A C A C A T G T G T N C T C C T G G T C	10644
109	A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C	10774
3	- -	71854
1	- -	72861
1	- -	74452
109	N G T G A C A A G G A C A C A T G T N T G C T C C T G G T C	155045
241	A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C	156817
97	A C T G T C - - - - - C C T G C C T G T C C C C A - T C	619856
1	- -	683480
115	- - - - - - - - - - - - - - - A C C C G C C C C T C C T C	1291208
271	G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G	consensus
85	- - - - - C C A - - - C A G A G G G C A A G G A G T T G	8941
128	G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G	10033
22	G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G	10644
139	G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G	10774
3	- -	71854
1	- - - - - - - - - - - T - - - - - - - - - - - - - - - T T G	72861
1	- -	74452
139	G G N A A G N C T A C T T C A A A G G G C A A G G A G T T G	155045
271	G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G	156817
119	- - - - - C C A - - - C A G A G G G C A A G G A G T T G	619856
1	- -	683480
130	A G - - - - - C T T C - - - - - - - - - - - - - - - -	1291208
301	G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C	consensus
105	G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C	8941
158	G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C	10033
52	G T G C A C A C C T A C A A G G G C T G C A T C A G G T N C	10644
159	G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C	10774
3	- -	71854
5	G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C	72861
1	- -	74452
159	G T G C A C	155045
301	G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C	156817
139	G T G C A C A A C T A C A A G G G C T G C A T C A G G T C C	619856
5	G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C	683480
136	- - - - - C T A T A A A G C T G - - - - - - - - - - -	1291208

FIGURE 2E

331	C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C	
135	C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C	consensus
188	C A G G A C T G C T A C T C C G G C G T T A T A T C N A C C	8941
82	C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C	10033
199	C A G G A C T G C T A C T C C G G N G T T A T A T C C A C C	10644
3	- - - - - - - - - - C C G G C G T T A T A T C C A C C	10774
35	C A G G A C T T C T A C T C C G G N G T T A T A T C C A C C	71854
1	- - - - - - - - - - C T C C G G C G T T A T A T C C A C C	72861
174	- - - - - - - - - - C T C C G G C G T T A T A T C C A C C	74452
331	C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C	155045
169	C A G G A C T G C T A C T N C G G N G T T A T A T C C A C C	156817
35	C A G G A C T G C T A C T C C G G C G T T A T A T N C A C C	619856
148	- -	683480
		1291208

**FIGURE 2F**

361	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	consensus
165	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	8941
218	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	10033
112	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	10644
229	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	10774
20	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	71854
65	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	72861
20	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	74452
174		155045
361	A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C	156817
199	A C C A T G G G C C C C A A G G A C C A C A T G G T	619856
65	A C C A T G G G N C C C A A G G A C C A C A T G G T A A C C	683480
148	- - - - - G G G A C C A - - - G G T A - - -	1291208
391	A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C	consensus
195	A G C T C C T T C T G N T G C C A G A G C G A C G G C T G C	8941
248	A G C T C C T T C T G C T G C - A G A G C G A C G G C T G C	10033
142	A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C	10644
259	A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C	10774
50	A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C	71854
95	A G C T C C T T N T G C T G C C A G A G C G A C G G C T G C	72861
50	A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C	74452
174		155045
391	A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C	156817
224		619856
95	A G C T C C T T N T G C T G C C A G A G C G A C G N C T G C	683480
159	- - - - - C T G C	1291208
421	A A C A G T G C C T T T T T G T C T G T T C C C T T G A C C	consensus
225	A A C A G T G C C T T T T T G T C T G T T C C C T T G A C C	8941
277	A A C A G T G C C T T T T T G T C T G T T C C C T T G A C C	10033
172	A A C A G T G C C T T T T T G T C T G T T C C C T T G A C C	10644
289	A A C A G T G C C T T T T T G T C T G T T C C C T T G A C C	10774
80	A A C A N T G C C T T T T T N T N T G T T C C C T T G A C C	71854
125	A A C A T T G C C T T T T T N T N T G T N C C C T T G	72861
80	A A C A N T G C C T T T T T N T N T G T T C C C T T G A C C	74452
174		155045
421	A A C A G T G C C T T T T T G T C T G T T C C C T T G A C C	156817
224		619856
125	A A C A G T G C C T T T T T G T C T G T T C C C T T G A C C	683480
163	- - - - -	1291208

FIGURE 2G

09875520-060601

451	A A T C T T A C T G A G A A T G G C C T G A T G T G C C C C	consensus
255	A A T C T T A C T G A G A A T G G C C T G A T G T G C C C N	8941
307	A A T C T T A C T G A G A A T G G T	10033
202	A A T N T T A C T G A G A A T N G N C T G A T G T G C C C C	10644
319	A A T C T T A C T G A G A A T G G C C T G A T G T G C C C C	10774
110	A A T C T T A C T G A G A A T G G C C T G A T G T G C C C C	71854
151		72861
110	A A T C T T A C T G A G A A T G G C C T G A T G T G C C C C	74452
174		155045
451	A A T C T T A C T G A G A A T G G C C T G A T G T G C C C C	156817
224		619856
155	A A T C T T A C T G A G A A T G G C C T G A T G T G C C C C	683480
153	- - - - - - - - - - - - - - - T G A T A C A C - - -	1291208

FIGURE 2H



431	G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C	consensus
235	G C - T G C A C T G C G A G T T T N A G G G N C A A A - - -	8941
324		10033
232	G N C T G C A C T G N G A G C T T C A G G G A C A A A T G C	10644
349	G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C	10774
140	G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C	71854
151		72861
140	G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C	74452
174		155045
481	G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C	156817
224		619856
185	G N C T G C A C T G C G A G C T T N A G G G A C A A A T G C	683480
171	- - - - A C A C - - - - - - - - - - - - - - - - - C	1291208
511	A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G	consensus
311	- - - - - A T N C A T G - - - - - - - - - - - - - - - - -	8941
324		10033
262	- -	10644
379	A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G	10774
170	A T G G G G C C C A T G A C C C	71854
151		72861
170	A T G G G G C C C A T G A C C C - - - - - - C A G G A - - -	74452
174		155045
511	A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G	156817
224		619856
215	A T G G G G C C C A T G A C C C A C T G T A C T G G A G A G	683480
176	A T G A G G C T C - - - - T C C A - - - - - - - - - - - -	1291208
541	G A A A A C C A C T G C G T C T C C T T A T C T G G A C A C	consensus
318	- -	8941
324		10033
262	- -	10644
409	G A A A A C C A C T G C G T C T C C T T A T G T G G A C A C	10774
185		71854
151		72861
191	- - - - - - - - C T G C - - - - - - - - - - - - - - - - -	74452
174		155045
541	G A A A A C C A C T G C G T C T C C T T A T C T G G A C A C	156817
224		619856
245	G A A A A C C A	683480
189	G G A G A C C A - - - - - - - - - - - - - - - - - G A G A C	1291208

FIGURE 2I

571	G T G C A G G C T G G T A T T T T C A A A C C C A G A T T T	consensus
318	- - - - -	8941
324		10033
252	- - - - -	10644
439	G T G C A T G C T G G T A T T T T C A A A C C C A G A T T T	10774
185		71854
151		72861
195	- - - - - T A C T C - - - - -	74452
174		155045
571	G T G C A G G C T G G T A T T T T C A A A C C C A G A T T T	156817
224		619856
252		683480
202	- - - - - C T T T C - - - - - T	1291208

**FIGURE 2J**

501	G C T A T G C G G G G C T G T G C T A C A G A G A G T A T G	consensus
313	- - - - - G G G G - - - - -	8941
324		10033
252	- T	10644
469	G C T A T G C G G G G C T G T G C T A C A G A G A G T A T G	10774
185		71854
151		72861
200	- - - - - C G G N G T T A T A - - - - -	74452
174		155045
601	G C T A T G C G G G G C T G T G C T A C A G A G A G T A T G	156817
224		619856
252		683480
208	G C T - - - - - G G C - - - - -	1291208
531	T G C T T T A C C A A G C C T G G T G C T G A A G T A C C C	consensus
322	- -	8941
324		10033
252		10644
499	T G C T T T A C C A A G C C T G G T G C T G A A G T A C C C	10774
185		71854
151		72861
210	- - - T C C A C C A - - - - - - - - - - - - - - - C C	74452
174		155045
631	T G C T T T A C C A A G C C T G G T G C T G A A G T A C C C	156817
224		619856
252		683480
214	- - C T T T - - - - - - - - - - G T G T T G - - - - -	1291208
661	A C A G G C A C C A A T G T C C T C T T C C T C C A T C A T	consensus
322	- -	8941
324		10033
252		10644
529	A C A G G C A C C A A T G T C C T C T T C C T C C A T C A T	10774
185		71854
151		72861
219	A T G G G C C C C A A G G - - - - - - - - - - A C C A C	74452
174		155045
661	A C A G G C A C C A A T G T C C T C T T C C T C C A T C A T	156817
224		619856
252		683480
224	- - - - - - - - - - - - - - - - C T C - - - - -	1291208

FIGURE 2K

09875520.060601

591	A T A G A G T G C A C T C A C T C C C C C T G A A A A G C T	consensus
322	- - - - -	8941
324		10033
262		10644
559	A T A G A G T G C A C T C A C T C C C C C T G A A A A G C T	10774
185		71854
151		72861
237	A T G - - G T A - A C C A G C T C C T T C T G - - - - - C T	74452
174		155045
691	A T A G A G T G C A C T C A C T C C C C C T G A A A A G C T	156817
224		619856
252		683480
227	- - - - - T G C A C - - - - - C C T C C T G G G - - - - -	1291208

FIGURE 2L

721	A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A	consensus
322	- - - - -	8941
324		10033
262		10644
589	A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A	10774
185		71854
151		72861
259	G C C A G A G C N A C G G C - - - - - T G C A A C - - - -	74452
174		155045
721	A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A	156817
224		619856
252		683480
241	- - - - -	1291208
751	A G T C C C C A T T T G T C C T C A G C C T G T A A C T T C	consensus
322	- - - - C C C A T T	8941
324		10033
262		10644
619	A G T C C C C A T T T G T T C C T A G N C T G T A A C T T C	10774
185		71854
151		72861
279	A N T G C C - - T T T N T - - - - G T C T G T N - - - - C	74452
174		155045
751	A G T C C C C A T T T G T C C T C A G C C T G T A A C T T C	156817
224		619856
252		683480
241	- - - - - T C T T G G - - - - -	1291208
781	C C C G T G T G - C C T A T A A A G A A G T T A A T A G A G	consensus
327		8941
324		10033
262		10644
649	C C - G T G T G G C C T A T A A N G A A G T T A A T N G N G	10774
185		71854
151		72861
298	C C T - - - T G A C C - - - - - A A T C T N A C T G A G	74452
174		155045
781	C C C G T G T G - C C T A T A A A G A A G T T A A T A G A G	156817
224		619856
252		683480
247	- - - G T G C	1291208

**FIGURE 2M**

810	C A C T C G A G	consensus
327		8941
324		10033
262		10644
678	C A A A N N A N A A A G A A A A A A A	10774
185		71854
151		72861
318	- - - - - A A T N G C C T G A T T	74452
174		155045
810	C A C T C G A G	156817
224		619856
252		683480
250		1291208

FIGURE 2N

1 MRLSRRPETFL LAFVLLCTLLGLGCPLHCE GIPL aa  
1 M(K-----Y) LHTICLL FIFVARG NSRSCD CNF aa

31 ICTAAGSRCHGOMKTCSSSDKDT CVLLVGKA GIPL aa  
24 (FCHNIGKDCDGYEEECSSSPEDVC) GKVLLET CNF aa

51 TSKGKELVHTYKGCIRSODCYSGVISTTMG GIPL aa  
54 (SSASLSVRTVHKNC) FSS(SIC) KLGQFDVNI G CNF aa

91 PKDHMTSSFFCCQSDGCNS-AFLSVPLTNL GIPL aa  
84 (HHSYIRGRINC) CEKELCEDQPF PGLPLSK- CNF aa

120 TENG LMC PACTASFRDKCMGPMTHCTGKEN GIPL aa  
113 (-P) NG(VYV) CP(GAIGL) FTKDSTEYEATC(KG) TE(T) CNF aa

150 HCVSLSGHVQAGIFKP--RFAMRG CATESM GIPL aa  
142 (K) C(INIV) GH(-RYEQ) FPGDISYNLXGC(VSS-- ) CNF aa

178 CFTKPGA EVPTGTNVLF LHHIECTHSP [ ] GIPL aa  
169 C(PLLSLSNATFEON) RNYL(EKV) ECKDAIRLA CNF aa

204 [ ] GIPL aa  
199 SL [ ] CNF aa

### FIGURE 3

09090:02552860

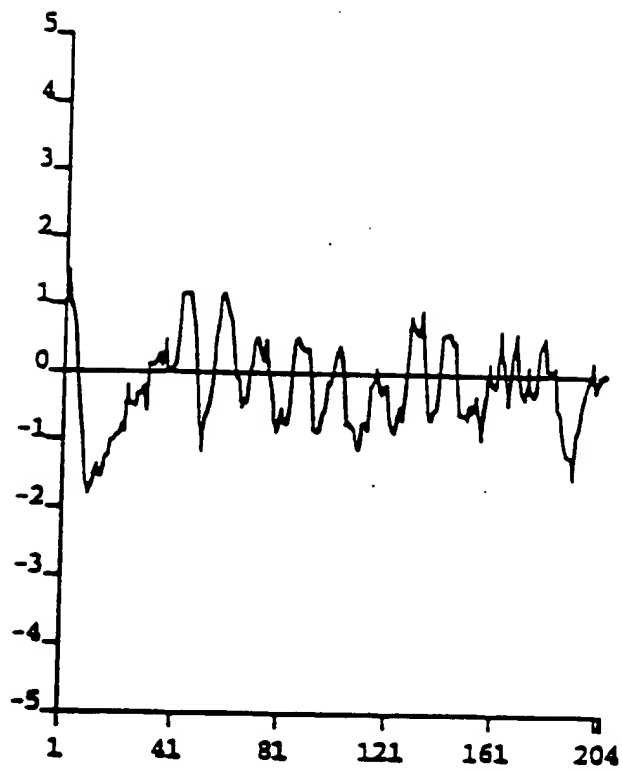


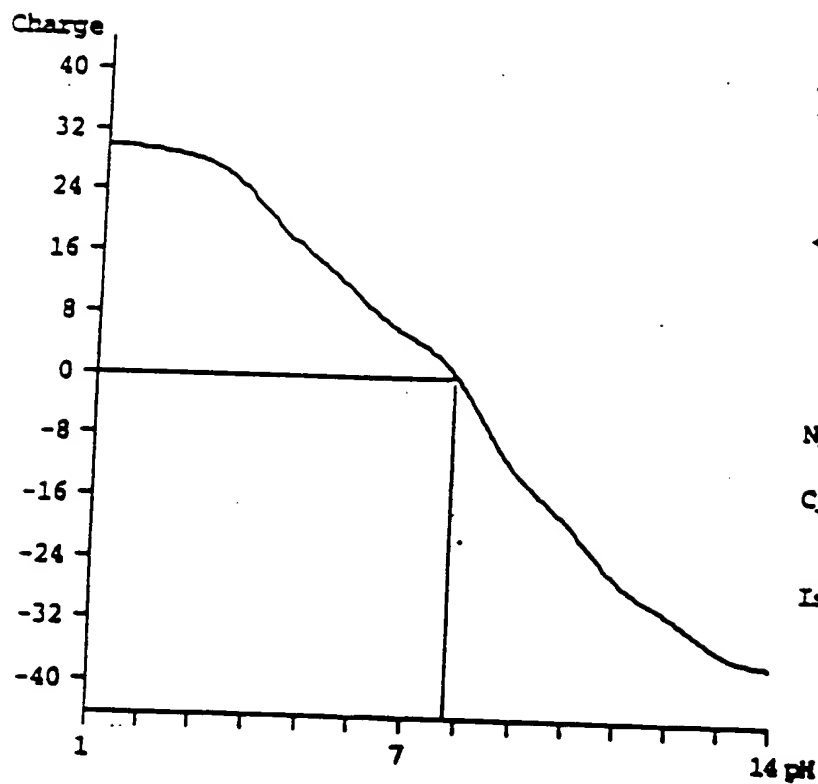
FIGURE 4



The graph displays a time series with a fluctuating signal and a nearly horizontal trend line. The y-axis ranges from -5 to 5, and the x-axis ranges from 1 to 200. The signal fluctuates around the zero line, with peaks and troughs occurring throughout the time period.

FIGURE 5

0967550.0604



Amino Acid	Number	pKa
<Positive>		
Arg (R)	8	12.5
His (H)	10	6.0
Lys (K)	11	10.5
<Negative>		
Asp (D)	6	3.9
Cys (C)	20	8.3
Glu (E)	8	4.3
Tyr (Y)	2	10.1
N_terminal	Met (M)	9.3
C_terminal	Pro (P)	2.0
Isoelectric point (pI) 7.83		

FIGURE 6

